

REMARKS

Claims 10-19 are pending in this application, with claims 10, 13, and 15 being the only independent claims. Claims 10 and 13-18 have been amended. Reconsideration of the application in view of the above remarks and the following remarks is requested.

Allowable Subject Matter

Claims 15 and 17-19 have been objected to for depending from a rejected base claim but would be allowable if rewritten in independent form. In view of the allowable subject matter, claim 15 is rewritten in independent form. Accordingly, independent claim 15 is deemed to be allowable.

Objections to claims 13, 16, and 18

Claims 13, 16, and 18 have been objected to for various informalities.

With respect to claim 13, Office Action states that the limitation “the program” lacks sufficient antecedent basis, and that the term “returned” is redundant. Claim 13 has been amended to provide sufficient antecedent basis and to remove the redundancy.

With respect to claim 16, Office Action states that line 2 should read, “setting or changing, within the other of the microcomputers, a respective flag”. Claim 16 has been amended to read as suggested in the Office Action.

With respect to claim 18, Office Action states that lines 1 and 2 should include commas to read, “counting errors, using an error counter in the one of the microcomputers, which have been detected”. Claim 18 has been amended to read as suggested in the Office Action.

Applicants submit that these objections have now been overcome.

Rejection of claims 15 and 17-19 under 35 U.S.C. §112, first paragraph

Claims 15 and 17-19 have been rejected under 35 U.S.C. §112, first paragraph, for not being enabled by the specification.

With respect to claims 15 and 17, the Office Action states that it is unclear from the specification how the microcomputer operates to “expect” the falsification.

Claims 15 and 17 have been amended to remove the word “expect” and now recite “checking, by the one of the microcomputers, for the falsification”. Applicants submit that this rejection has now been overcome.

Rejection of claim 14 under 35 U.S.C. §112, second paragraph

Claim 14 has been rejected under 35 U.S.C. §112, second paragraph as indefinite. The Office Action states that the phrase “the actual function of the other of the microcomputers” lacks antecedent basis and implies that the program of parent claim 13 is capable of performing a pseudo-function. Claim 14 has been amended to provide sufficient antecedent basis and remove the implication that the program of the parent claim 13 performs a pseudo-function. Applicants submit that this rejection has now been overcome.

Rejection of claims 13-15 and 18 under 35 U.S.C. §101

Claims 13-15 and 18 have been rejected under 35 U.S.C. §101 as not providing a useful, concrete, and tangible result. More specifically, the Office Action states that claim 13 performs a comparison but does not include a step of actually identifying errors or another clearly useful function. Claim 13 has been amended to add the additional step of “generating an error message if

the request does not match the response”. Applicants submit that this rejection has now been overcome.

Rejection of claims under 35 U.S.C. §103(a)

Claims 10-12 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,161,196 (“Tsai”) in view of Wikipedia’s Global Positioning System (“GPS”). Claims 13-14 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Pub. No. 2003/0233635 (“Corrie”) in view of GPS. Claim 16 has been rejected under 35 U.S.C. §103(a) as unpatentable over Corrie and GPS and further in view of U.S. Patent No. 5,347,649 (“Alderson”).

Independent claim 10

Independent claim 10 has been amended to recite “A method for monitoring program execution in a microcomputer in a sensor circuit for sensing at least one operating parameter of a motor vehicle”, which Tsai and GPS, whether taken alone or in combination, fail to teach or suggest.

Tsai discloses providing fault tolerance in a computing system using a technique referred to as indirect instrumentation. In the system of Tsai, a number of different copies of a given target program are executed on different machines (12, 14) in a computer network (see Fig. 1 of Tsai). Each of the machines (12, 14) in the computer network of Tsai includes a controller (27) for controlling the execution of the copy of the target program on that machine. According to Tsai, a user specifies variables to be monitored, breakpoints, voting and recovery parameters, and other information using a user interface of an instrumentation tool, and the tool communicates corresponding commands to each of the controllers for use in executing the copies. A fault is

detected in one of the copies of Tsai by comparing values of a user-specified variable generated by the different copies at the designated breakpoints. Upon detection of a fault in a given one of the copies of Tsai, a checkpoint is taken of another one of the copies that has been determined to be operating properly, and a new copy is restarted from the checkpoint.

The Examiner concedes that Tsai fails to teach or suggest a system for use in a sensor circuit for motor vehicles. Likewise, Tsai also fails to teach or suggest "a sensor circuit for sensing at least one operating parameter of a motor vehicle", as recited in Applicants' amended independent claim 10.

GPS discloses an encyclopedic description of a global positioning system. As described in GPS, a global positioning system is a circular orbit satellite navigation system used for determining one's precise location and provides an accurate time reference almost anywhere on Earth. In other words, a global positioning system is a device that is external to the object for which a location is determined.

The Examiner argues that it would have been obvious to combine the teachings of Tsai with the teachings of GPS to achieve Applicants' recited invention. Applicants submit that the combination of the references is improper.

Tsai discloses providing fault detection in a networked computing system and provides no teaching, suggestion, or motivation to provide fault detection in a microcomputer in a sensor circuit for sensing at least one operating parameter of a motor vehicle.

As previously discussed, a global positioning system provides an external means for determining a physical location of an object on earth, and thus has nothing to do with an onboard sensor circuit for sensing at least one operating parameter of a motor vehicle.

Combining the teachings of Tsai with the teaching of GPS would result in a global positioning system with fault detection system, and not the invention recited in Applicants' amended independent claim 10. Therefore, the combination of Tsai and GPS is improper.

In view of the foregoing, Tsai and GPS, whether taken alone or in combination, do not teach or suggest the subject matter recited in Applicants' amended independent claim 10. Specifically, Tsai and GPS fail to teach or suggest "a method for monitoring program execution in a microcomputer in a sensor circuit sensing at least one operating parameter of a motor vehicle", as recited in Applicants' independent claim 10. Accordingly, independent claim 10 is patentable thereover under 35 U.S.C. §103(a).

Independent claim 13

Independent claim 13 has been amended to recite "A method for monitoring program execution in at least two interconnected microcomputers in a sensor circuit for sensing at least one operating parameter of a motor vehicle", which Corrie and GPS, whether taken alone or in combination, fail to teach or suggest.

Corrie discloses a system and method for automated function verification testing (FVT) test generation by distributed processing among a master (100) and one or more slave (200) Java virtual machines (JVMs) (i.e., a computer network) which communicate via remote method invocation (RMI) (see paragraphs 0017-0018 and Fig. 1 of Corrie). Using reflection analysis, the master (100) of Corrie sequentially tests each of a plurality of classes, instructs the slave to test each of the plurality of classes, compares the results of the testing at the master and slave and in dependence thereon adds the class to a pool (110) of classes for subsequent use (see Abstract and paragraph 0018).

The Examiner concedes that Corrie fails to teach or suggest a system for use in a sensor circuit for motor vehicles. Likewise, Corrie also fails to teach or suggest "a sensor circuit sensing at least one operating parameter of a motor vehicle", as recited in Applicants' amended independent claim 13.

GPS discloses an encyclopedic description of a global positioning system. As described in GPS, a global positioning system is a circular orbit satellite navigation system used for determining one's precise location and provides an accurate time reference almost anywhere on Earth.

The Examiner argues that it would have been obvious to combine the teachings of Corrie with the teachings of GPS to achieve Applicants' recited invention. Applicants submit that the combination of the references is improper.

Corrie also discloses providing fault detection in a networked computing system and provides no teaching, suggestion, or motivation to provide fault detection in at least two interconnected microcomputers in a sensor circuit sensing at least one operating parameter of a motor vehicle.

As previously discussed, a global positioning system provides an external means for determining a physical location of an object on earth, and thus has nothing to do with an onboard sensor circuit sensing at least one operating parameter of a motor vehicle.

Combining the teachings of Corrie with the teaching of GPS would result in a global positioning system with fault detection system, and not the invention recited in Applicants' amended independent claim 13. Therefore, the combination of Tsai and GPS is improper.

In view of the foregoing, Corrie and GPS, whether taken alone or in combination, do not teach or suggest the subject matter recited in Applicants' independent claim 13. Specifically, Corrie and GPS fail to teach or suggest "a method for monitoring program execution in at least

two interconnected microcomputers in a sensor circuit sensing at least one operating parameter of a motor vehicle", as recited in Applicants' independent claim 13. Accordingly, independent claim 13 is patentable thereover under 35 U.S.C. §103(a).

Dependent claims

Dependent claims 11-12, 14, and 16-19 are allowable for the same reasons as are independent claims 10, 13, and 15, as well as for the additional recitations contained therein.

Conclusion

In view of the foregoing, reconsideration and withdrawal of all rejections, and allowance of all pending claims is respectfully solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,
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